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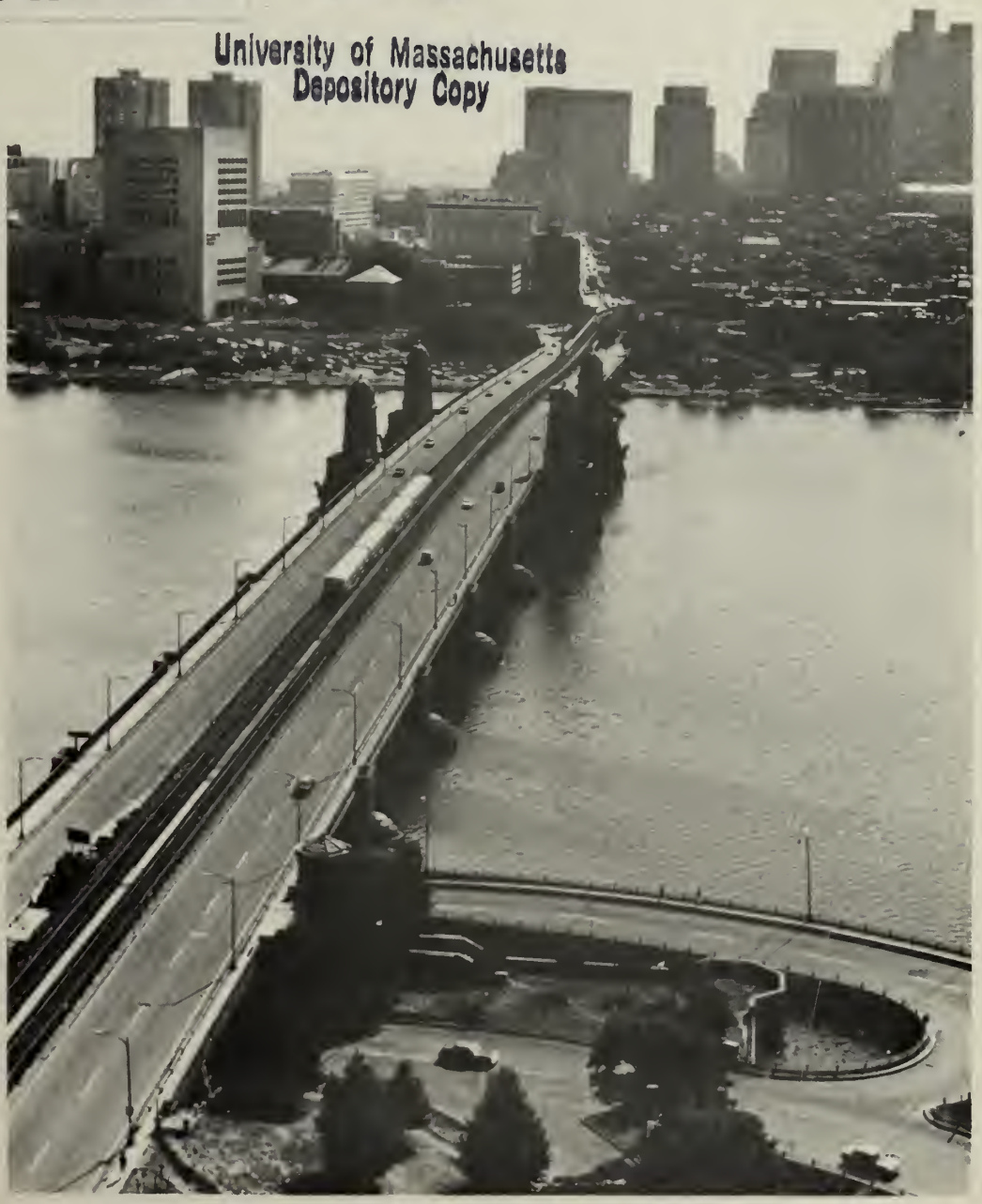

MBTA ADVISORY BOARD STAFF REPORT

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MBTA PERFORMANCE

FISCAL YEAR 1986

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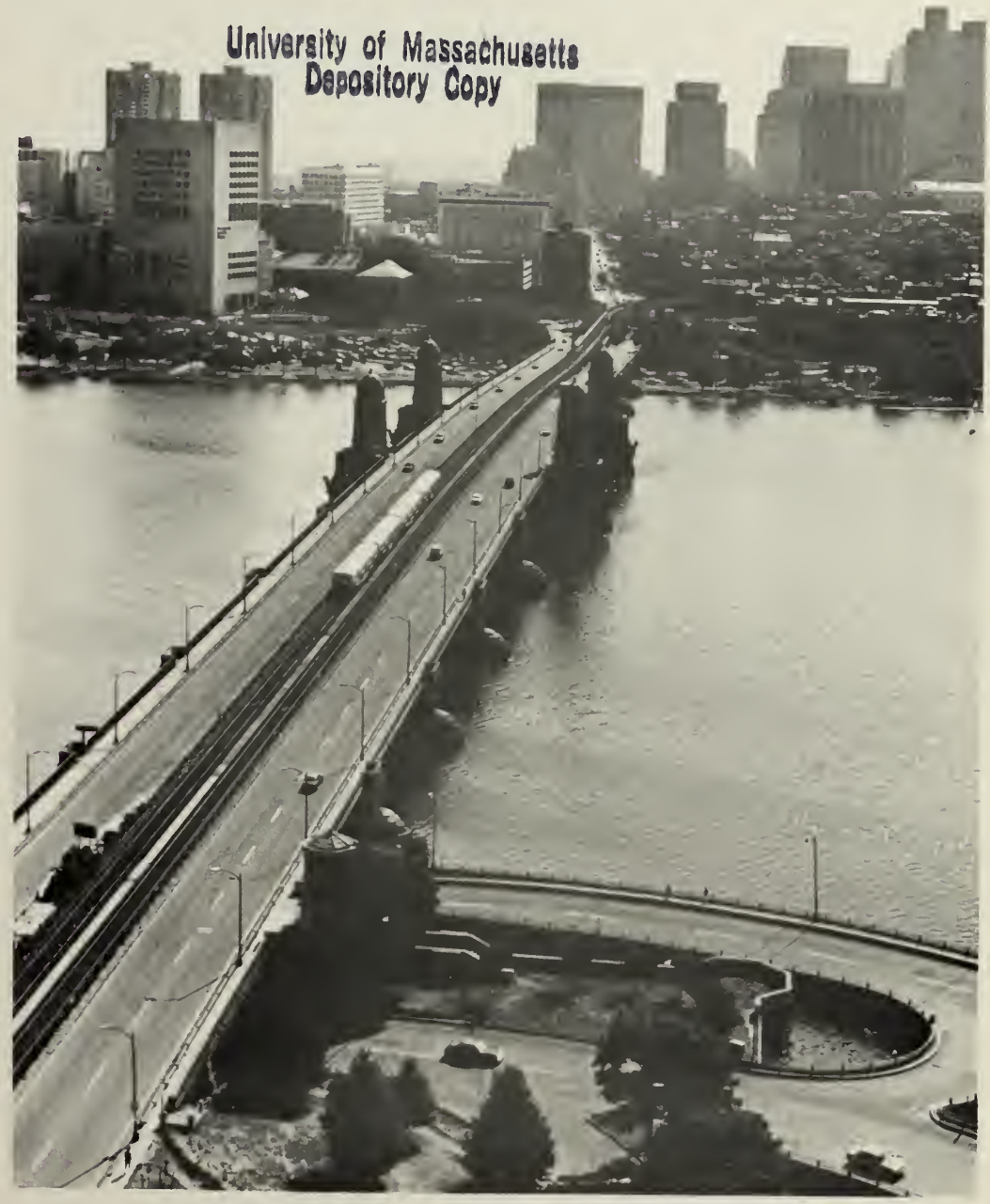

MBTA ADVISORY BOARD STAFF REPORT

ANALYSIS OF MBTA BUDGET AND SERVICE PERFORMANCE FOR FY 1986

MBTA ADVISORY BOARD STAFF

Anne M. Larner
Executive Director and
Chief Budget Analyst

Robert P. Blake
Operations Analyst

Maria MacDonald
Executive Assistant

Carol A. Wallace
Financial Analyst

Aruna Jayakumar
Anne O'Day

MBTA Advisory Board
120 Boylston Street
Suite 504
Boston, Massachusetts
02116

(617) 426-6054

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CHAPTER 1: FY86 AT THE MBTA: CAPSULE REVIEW

The cost of MBTA delivered service per revenue mile rose 8.8% during FY 1986, the highest increase since CY 1981. Service miles increased 1.1% during the year. The sharp rise in per mile cost is primarily the result of a systemwide upgrading in maintenance both for vehicles and facilities.

The opening of the Red Line to Alewife in 1985 and planned opening of nine new Orange Line Stations in 1987, coupled with the arrival of 380 new buses and 100 new Green Line cars between 1985 and 1987, prompted the Authority to increase its maintenance capacity. In addition to protecting the investment in new rolling stock and facilities, the T undertook a concerted effort to upgrade and refurbish existing property and equipment. Both efforts required significant additional manpower and materials.

Since CY81 T expenses per service mile have averaged a 3.6% increase per year. During the same period, the Boston area CPI has risen 3.7% annually on average. Considering the number of major improvements and new initiatives begun since 1981, it is impressive that MBTA management has done so much while keeping costs per mile under the rate of inflation.

On the other hand, it is instructive to note that since CY81, the MBTA's net cost of service per revenue mile has risen an average of 5.7% per year. The difference between the rate of increase in gross and net costs is attributable to the fact that fares have not risen since 1982 and ridership has not grown as fast as expenses.

Service in FY86 varied across the system but included a 1.1% increase in revenue miles, a reopening of direct commuter rail service (though interupted by a three month strike) to the North Shore and an upgrading of services for the disabled. The Arborway closed in December, 1985, to reopen in July, 1986, only as far as Brigham Circle. Heavy rail revenue

miles increased but scheduled trips fell. A number of heavy rail and light rail lines saw a significant realignment from peak to off peak service. Completed trips for buses remained high, but questions regarding on-time performance remained. The quality of service systemwide varied but represented clear improvement over the major failures and disruptions (other than commuter rail) which marked service in FY84 and earlier years.

The major accomplishment of FY86 was the amicable settlement in August, 1985 of a contract with Local 589 of the Carmen's Union. The new contract granted employees wage increases of 2% (Jan. 86), 2.5% (July 86), 3% (July 87) and 2% (Jan. 88) along with a shift of 4% of pension contribution from employees to the Authority. The settlement also included extension of health, vacation, and holiday benefits to part time employees. The settlement was well constructed and fair. It marked a milestone in T/Union relationships.

During the year, the MBTA police won accreditation, the first transit force in the country to do so. Also in September, 1985, the T at last completed and approved major agreements with Boston Edison which should maximize savings on power costs and protect reserve power capacity in times of electrical outages.

CHAPTER 2: FY86 BUDGET OVERVIEW

The FY86 MBTA budget was formulated during the Summer of 1984 and approved by the T Board of Directors in October, 1984. It was reviewed by the Advisory Board during October and November and approved on November 29, 1984. The budget covered the time period July 1, 1985 to June 30, 1986.

A budget is a planning tool which enables management to distribute its estimated resources in accordance with a set of goals and priorities. Some elements upon which a budget is built - such as fuel prices and interest rates - are beyond the control of management. Other factors such as the level of staff and service are partially or entirely the result of management decisions. Even though exogenous forces affect the budget, it is still instructive to compare an original budget with final expenditures as a means for evaluating resource planning, measuring progress toward goals, and analyzing response to outside forces.

To complement analysis of the planned to the actual, it is helpful to look at expenditures over the three years since the Authority changed to a fiscal year budget. (A table detailing calendar year expenditures for 1974 through 1986 is available in Appendix A:2). Such analysis helps pinpoint chronic areas in need of management attention and/or remedial action.

2:1 Trends: FY84 to FY86

Since FY84, MBTA income has increased 5.8% per year on average while Total Current Expense (operating expense plus debt service) has risen an average of 8.6% annually. This results in the deficit growing at a faster rate than expenditures. Because income has failed to keep pace with expenses and a 2 1/2 % cap limits growth of the deficit share paid by the District's cities and towns, the State's portion of the deficit has risen

more than an average of 16% per year. This rapid growth has spawned efforts by some State legislators to shift more responsibility for control of the Authority's budget to the legislature. It is unclear what impact such a move would have on T expenditures since, as noted earlier, expenses per service mile have stayed under the rate of inflation. In addition, the T's increase in total expense has averaged less than the State's since 1981.

Fare income has ranged from 89% to 85% of total MBTA income during the three year period in question. Although there has been an increase in ridership since FY84, fare income has not kept pace with increases in costs because fares have remained constant since 1982. A mechanism to initiate automatically periodic small increases in fares must be a key part of any future strategy to manage the funding of the MBTA.

From FY84 to FY86, an average annual increase in the Wage line of 8.7% reflects an increase in manpower as well as an increase in wage rates. Wage rates for the carmen, the T's leading union, have risen just 10.3% from FY84 through FY86. Although credible figures on Authority manpower did not exist prior to FY86, best estimates indicate that the workforce grew 10% during that period. Several wage-related issues bear further investigation: lack of significant growth in health care costs, and failure of fringe and wage credit lines for capital employees to grow proportionally to the budget at a time when the capital program has been expanding.

When a multi-year approach to budget analysis is taken, the unpredictable nature of fuel prices and interest rates stands out in high relief. (see Appendix A:1).

The Materials expense line is problematic not only because it includes a large number of diverse categories such as supplies, all non-transportation contracts, insurance, utilities, and a sinking fund for Injuries and Damages, but also because it reflects management's decision to contract for

some services previously performed by the T. This means that some of the increase in Materials is offset by lowered wage and fringe benefits lines. A detailed analysis of Material expenditures over time is beyond the scope of this FY86 report. Due to the complexity of this line item we recommend an independent study.

Management has demonstrated its commitment to paratransit service for the disabled and to the Suburban Bus Program through a 34.8% annual growth in the Local Service Subsidy. The constituent demand for both programs indicates a continued high growth rate over the next several years.

CHAPTER 3: INCOME

3:1 The Money Room: Setting the Record Straight

The Money Room incident in May, 1984, which resulted in the conviction of 34 T employees, triggered a number of changes in Money Room procedures, policy, and structural design. Shortly after the incident, in August, 1984, the Bank of Boston was contracted to count all Authority surface and route receipts and to reconcile all collection funds. The T reclaimed these responsibilities in September, 1985, after a number of changes were instituted and the T was equipped to take on the job.

During FY86 the Money Room was completely redesigned and constructed to maximize security. The T also established new classifications for Money Room employees which separated counting and collection functions. In addition, the T expanded the supervisory staff; assigned three police officers to the Money Room on a daily basis (there was no regular police coverage in the past); installed a video camera system and metal detector; and issued pocketless uniforms. The T also produced and distributed a Policies and Procedures Manual to all Money Room employees.

3:2 Total Income

Total income rose 4.95% from FY85 to FY86 with most of the increase coming from significant gains in non-fare income. In FY85 fare revenue comprised 87.9% of income; in FY86, only 85%. This represents the lowest percentage of total income since CY 1981.

MBTA REVENUE, FY85 - FY86

	FY 86	% OF TOT.INC	FY 85	% OF TOT.INC
Rev. From Other Rwy. Oper.				
Parking Lot	$ 3,117,643	2.53	$ 2,324,978	1.98
Station Concession	256,937	.21	306,674	.26
Advertising	2,374,202	1.93	1,910,778	1.63
Bldng./ Property	289,530	.23	231,096	.20
Other	62,603	.05	62,114	.05
Sub Total	6,100,915	4.95	4,835,640	4.12
Rev. From Transp.	104,814,370	85.04	103,189,675	87.88
Non-Operating Inc.	11,227,107	9.11	8,300,476	7.07
Gas and Diesel Tax Reimb.	465,300	.38	469,569	.40
Reimb. From Outside Distr.	638,926	.52	629,535	.54
Total Income	$123,246,618	100.00	$117,424,895	100.00

3:3 Revenue from Transportation

From FY85 to FY86 fare revenue increased just 1.57% even though FY86 marked the first full year of operation of the Red Line extension to Alewife. Fare revenue figures do not reflect any revenues generated by contracted service (i.e., commuter rail or the Suburban Bus Program).

FY 1986		FY 1985
	Cash Fares	
$13,332,951	Red Line	$12,600,083
9,863,972	Orange Line	9,979,803
2,958,347	Blue Line	2,804,066
5,182,739	Green Line	5,681,107
12,734,696	Central Subwy	13,724,916
25,409,864	Bus	25,537,384
697,686	Trackless T	751,131
	Prepaid Pass Fare	
19,096,008	(express)	17,393,822
14,385,674	(local)	13,744,769
$104,814,370	TOTAL	$103,189,675

As the above chart indicates, only the Red and Blue Lines realized any increase in cash fares during FY86. It is impossible to give a complete

breakdown of fare income by transit line because of the increasing popularity of passes. No auditing system accurately records or distinguishes pass usage among bus and rail lines. It is unclear how the 9.8% increase in passes for express service divides among the lines.

Bus, trackless trolley, and Green Line (except Riverside Branch) constitute local service. Comparison of total FY85 to FY86 local fare revenue indicates a 0.1% drop.

3:3:1 Pass Program

The T's Pass Program* continued to experience significant growth in FY 86, with a 7.7% increase in monthly pass sales over FY85. Pass revenue rose 6.4% to nearly $33.5 million, or roughly 32% of total fare revenue. The number of passes sold in FY86 totalled 1,192,548.

The program, which began in 1974 with paper "flash" passes, was initially available only through employers. Now passes are sold in 39 locations, including banks, retail outlets, post offices, and MBTA stations. Two new station outlets in Government Center and Harvard Station opened in FY 86. Over 700 area employers sell passes to their staff each month; 86 of these organizations provide a partial or full subsidy to their employees.

Pass prices for each of the T's six pass categories (A-F) are based on the approximate cost of 18 round trips; this represents roughly a 10% discount for daily commuters. The B pass, at $22 per month, continues to be the most widely purchased. Over 500,000 B passes were sold during FY86, a 13.4% increase over FY85. This pass enables holders to ride any rapid transit/ streetcar line which charges the $.60 premium fare.

The Advisory Board's Revenue Review Committee has raised a number of

issues concerning coherent and consistent T policy on use of the six pass types for specific services. A thorough analysis of pass use and pass policy will be part of the Board's Fare Study expected to be completed by late 1987.

3:4 Non-Operating Income

The T's total non-operating income reached $11.2 million in FY86. As evidenced by a dramatic 35.26% increase in non-operating income in FY86 over FY85, the Treasurer-Controller's Office has clearly developed and managed an aggressive approach to maximizing non-operating revenue. Despite the relatively low interest rates during the fiscal year, $1.6 million in proceeds from safe harbor lease transactions (whereby the T "sells" its depreciation deductions to a corporation), the tax exempt commercial paper program, and other similar initiatives have helped to account for this $2.9 million revenue jump.

One such initiative is the Treasurer-Controller's new Banklink, an electronically controlled cash management system which enables the T to reinvest and monitor funds easily on a daily basis. The T estimates that the system, which was implemented in March, 1986, may improve earnings by as much as $800,000 per year. Further enhancing the advent of Banklink, the T has become increasingly aggressive in its competitive use of bonds. Another new key management tool developed in FY86 was the computerization of the T's bond amortization books.

The new Federal tax law has definite implications for the T's strategies for maximizing non-operating revenue. Effective September, 1986, the T will liquidate its $70 million tax exempt commercial paper program due to uncertainties with the new tax law but may reopen the program in the future. The new tax law also shortens the period, from three years to six

months, within which bond proceeds must be spent in order to avoid rebating excess arbitrage earnings to the IRS. This new requirement, which necessitates changing the T's financing plan, will be built into the FY88 budget.

Another factor which will require the T to develop new financing strategies involves the Authority's safe harbor leasing program. The program's enabling legislation calls for a phasing out of safe harbor leasing across the board by the end of CY87.

3:5 Revenue from T Property

In FY86 leases on buildings and land; station concessions such as newsstands, coffee shops, and convenience stores; and parking lot/garage revenues generated slightly more than $3,600,000 or approximately 3% of FY86 T income. This compares favorably to FY85 when such revenue comprised roughly 2.4% of income. The rise in income is attributed at least in part to the added revenue generated by the T's new Alewife Station garage, the reopening of the Suffolk Downs parking lot (3/85), a 35% increase T-wide in use of available parking, and an intensive effort to collect overdue payments on various lease arrangements.

The MBTA has vast property holdings with significant potential for producing income. Holdings include approximately 65 miles of rapid transit and streetcar right of way, over 20 parking lots, four parking garages, 150 miles of former Penn Central right of way and over 260 miles of former Boston and Maine right of way. In addition, 86 MBTA stations, 92 commuter rail stations and several dozen maintenance and other facilities are included in the T's real property assets.

Preliminary findings made by the Advisory Board's Revenue Review Committee in early 1986 indicate that the T could take more initiative

regarding real estate without compromising its primary function as a transit agency. For example, the MBTA does not have complete and current records on its property holdings or a system which allows easy access to these records. A two-phased computerized system was initiated in 1982; Phase I was completed in January, 1983. However, the T does not plan to begin Phase II of this process until the late summmer of 1986. It is long overdue.

Until recently the T did not computerize billings, renewals, etc. for its leases and appurtenances (leases/licenses for utilities using T property for cables, etc.). Consequently, the T has had some problems managing its contracts. As of March, 1986 more than half of the tenants holding appurtenance contracts were in arrears, owing over $400,000. Transit property tenants owed the T nearly $250,000 from past billings. Computerization of the system should improve the situation.

Furthermore, responsibility for management and oversight of MBTA holdings currently rests in two disparate departments - Real Estate Management and Public Affairs and Development. Real Estate Management is responsible for administering and monitoring all leases, concessions, and sale of property, while Public Affairs and Development handles all real estate transactions which are designated by the T's Board of Directors as "joint development."

It is unclear why real estate and development responsibilities are covered in two distinct departments. What is clear is it that some sense of strategic, long range planning is essential if the T is to be more aggressive in maximizing the use of its real property holdings.

3:6 Revenue from Advertising

T advertising revenue jumped 24% in FY86 over FY85, to an approximate

total of $2,374,000 or 1.9% of total T income. The Authority attributes the increase to a more intense effort to promote advertising space.

Although there is no formal MBTA policy on advertising, T management made several key decisions during FY86 which will affect this revenue source. T officials decided:

- At least through FY87, no advertising at three of the four new stations opened in March, 1985 on the Red Line Northwest Extension (Porter, Davis, and Alewife);
- No exterior advertising on the 200 new GMC buses (scheduled for service fall 1986) and the 100 new Green Line Type 7 LRVs (scheduled for service in 1986-1987 time frame);
- No tobacco advertising, which represented roughly 36% of T advertising revenue in CY85, after October 1, 1986.

As FY86 came to a close a new advertising contract, which covers the management of advertising only on T vehicles and stations, was awarded to Hevia/Bacigalupi of Boston. Transit America, a Boston firm that held the contract for the last five years, was unsuccessful in its attempt to keep the T's business.

Under the terms of the new contract, Hevia/Bacigalupi of Boston will pay the T on a monthly basis the maximum of either $83,333 or 58.1% of its monthly gross billings; the former contract had the same provision at 52% of the gross monthly billing. This obviously represents a potential increase in revenue, although the impact of eliminating tobacco advertising remains uncertain. Management of the contract has switched from the T's Real Estate Management Department to Development and Public Affairs.

CHAPTER 4: EXPENDITURES

4:1 Total Expenditures

In FY86 the MBTA spent $245 million on wages and fringe benefits, $148 million for materials and contracts, and $78 million on debt service for capital expense, equalling a total FY86 expenditure of $471 million.

INCOME - EXPENDITURES FY85 - FY86

	FY 1985 ACTUAL	FY 1986 ACTUAL	ANNUAL INC. %
Income	117,424,895	123,246,618	4.96
T Service	293,271,570	322,643,110	10.02
Labor	225,171,434	245,058,721	8.83
M & S	40,116,225	50,269,283	25.31
Fuel	21,976,489	19,048,147	(13.32)
Other	6,007,422	8,266,959	37.61
Contracted Service	54,860,903	56,935,178	3.78
Commuter Rail	52,260,500	52,986,189	1.39
Other	2,600,403	3,948,989	51.86
Debt Service	84,796,891	91,201,261	7.55
Bonds	68,486,428	77,861,117	13.69
Notes	16,310,463	13,340,144	(18.21)
Total Expense	432,929,364	470,779,549	8.74
Expense Net of Income	315,504,469	347,532,931	10.15
Net Cost (loss) (net of aid)	223,758,959	252,702,556	12.94

As the table above shows, service provided directly by the MBTA accounted for $323 million while contracted transportation services accounted for $57 million of the year's expenses. The net cost per revenue mile for T service was $5.30; for commuter rail, $6.86; and for the RIDE, $1.91. The net cost per passenger for each type of service was $2.00, $4.58 and

$14.74 respectively. The considerable difference in cost per passenger is related to the different capacity each type of vehicle.

The major budget line items showing substantial increase from FY85 include Pensions, Materials, Injuries and Damages, and Fixed Charges. The first four are examined in Section 4:3 on cost overruns. The growth of Fixed Charges reflects the MBTA's and the Commonwealth's commitment to upgrading and expanding MBTA facilities and rolling stock. The FY86 expense of $78 million represents debt service on just 20% of the public funds being put into the MBTA. The Federal government continues to pay 80% of most MBTA capital projects.

In the next few years an increasing percentage of projects are scheduled to be financed with 100% Massachusetts monies. While the number of MBTA projects has not been increasing, this shift from Federal funding to local funding should cause the Fixed Charges line to increase even more rapidly in the next few years.

4:2 Net Cost of Service (Loss)

Total Current Expenses were down $1,692,589 from the originally approved budget. And though income was up $5 million, the Net Cost of Service actually increased $2.6 million from the original budget to the final figures. To understand this seemingly contradictory sequence, it is necessary to explain the process of spreading the budget, then examine the interaction between State Contract Assistance and Fixed Charges, the service of long term debt.

Control of departmental expenditures and management of shifting priorities are executed through the "spread" of the budget. As the fiscal year approaches, the T's Budget Office reallocates the approved budget monies among the line items on the Net Cost of Service, taking pains to stay

within the approved bottom line. Allocations consistent with the new "Net Cost" are then made to the departments. In theory the "spreads" to the departments take account of conditions, assumptions, and priorities which have changed since the budget was approved six to seven months before the fiscal year begins. The spreads constitute marching orders to the departments on acceptable rates of expenditures.

Shortly before the 1986 fiscal year began, the Authority spread the FY86 budget in a way which assumed a significant transfer of funds from Fixed Charges to Wages and Materials. Such transfers require the prior approval of the Advisory Board. The timing of the sequence of actions (before the extent of the interest rate decline was evident) indicates that the Authority used Fixed Charges as a contingency fund and never planned on using the entire line item to support capital debt. By doing this the T effectively (and quietly) increased its operating budget by $7 million. The inflation of the projected debt service expense has been a recurring problem. Recent action by the T and the Advisory Board Finance Committee appears to have controlled this problem for subsequent years.

The MBTA originally planned to spend $86.5 million on debt service (Line C - see table on next page), approximately 90% of which would be reimbursed under G.L. 161A Section 28 by the Commonwealth (Line F). Because of decisions to go to market later in the year for a smaller offering and a fall in interest rates, the Authority spent $9.3 million less than planned on debt service. Of this amount $7.6 million was transferred to line items which were not reimbursable (Line B) and $1.7 million was left unexpended (Line D). Total expenses were lowered by the $1.7 million left unexpended, but the credit item of Contract Assistance was lowered proportionally (at an approximate 90% rate) to both the unexpended and transferred Fixed Charges.

BUDGET FLOW FY86
(000s omitted)

	Original Budget	Spreads	Budget After Transfers	Actual Expend.	
Income	$118,253	$117,403	$118,253	$123,246	A
Operating Expense	385,975	393,618	393,372	392,918	B
Fixed Charges	86,498	78,129	79,100	77,918	C
Total Expenses	472,472	471,746	472,472	470,780	D
Expense Net of Inc.	354,219	354,343	354,219	347,533	E
State Assistance	(82,796)	(73,694)		(73,951)	F
Federal Assistance	(21,338)	(21,310)		(20,879)	G
Net Cost of Service	$250,084	$259,310		$252,703	H

Though the Net Cost rose from budgeted figures, the Commonwealth will in the long run actually end up paying less for FY86 service than under the original budget because the increase in Net Cost is more than offset by a reduction in State Contract Assistance. On the accompanying table total State expense for the MBTA equals Line F plus a share of Line H. To confuse the picture even further, the State's assistance for debt service and the State's share of the net deficit are paid in two different fiscal years from two different State budgets.

4:3 Line Item Overruns

The following list of sources and uses of funds which bridge the gap between the original budget and the final figures is a helpful framework for examining budgeted to actual figures for the line items on the Net Cost of Service. All line items except commuter rail appear on the list.

SOURCES (surplus)		USES (deficits)	
Group Life	$ 282,896	G&A Credit	$ 244,007
BC/BS	3,837,231	Wages	4,146,762
Unfunded Debt	4,354,770	Pensions	4,826,484
Fuel	3,378,577	FICA	1,205,528
LSS	84,383	Workers' Comp	1,035,000
Fixed Charges	8,636,438	Acc/Sick Ins	46,656
		Unemployment	135,024
		Uniforms	266,625
		Fringe Cost Cap	128,823
		Materials	5,639,838
		Injuries & Dam	1,175,291
		Tax	31,668
		Unexpended	1,692,589
TOTAL	$20,574,295		$20,574,295

4:3:1 Wages

Of the $4.1 million expended over the originally planned allotment for Wages, the Advisory Board approved $961,900 in a late spring transfer for special maintenance projects. These included track repair on the Green and Blue Lines and replacement of air conditioning units on the problematic Boeing Green Line streetcars. According to MBTA analysis, an additional $1.9 million was used to fund contract settlements and executive pay raises. This leaves $1.2 million not readily accounted for.

Advisory Board Finance Committee notes, however, indicate that an even greater level of wages remain undocumented since the original MBTA FY86 budget included a 2% contingency for contract increases while the actual contract settlement was less costly, giving employees a 2% increase for the second half of the year.

The $1.2 million to $3.1 million in unexplained wages is probably attributable to over-budget increases in both manpower and overtime, coupled with a decrease in productivity due to excessive absenteeism.

But lack of consistent, accurate manpower figures for FY85 and part of FY86 precludes thorough analysis of the wages overrun. This, plus the Authority's inability to either predict or control the shifting of wage expense between capital and operating budgets, makes pinpointing the source of variance between planned and actual wages impossible.

For the first time, however, the Budget Office has begun in FY86 to require each department to prepare monthly manpower counts, both capital and operating, full time and part time. With this simple, long overdue move, the new Budget Director appears to have established consistent monthly reporting by the end of FY86.

4:3:1:1 Absenteeism

Absentee hours rose 6.5% in FY86. Sick leave and time lost to industrial accidents accounted for 80% of total absentee hours with jury duty, suspensions, bereavement leave, etc. making up the remainder.

An estimated 2.9% increase in manpower over the year indicates a 3.5% increase in time lost per employee. Expressed in terms of work days, this means that each employee, not counting executives, lost an additional day in FY86. This raises to 23 the total days lost per employee.

The FY86 increase is cause for alarm because it reverses a stabilizing trend noted in FY85 when absenteeism rose just 0.1%. Data indicates that Transportation Department employees--vehicle operators, guards, and collectors--log the greatest number of absences. The surface lines appear to be the leading offenders.

Management must make reduction of employee absenteeism to the 1980 level (just under 15 days per worker) a top priority. If each employee had missed 15 instead of 23 days in FY86, the T could have delivered the same service to the public for a minimum of $6 million less.

4:3:1:2 Overtime

Overtime comprised 5.5% of total wages in FY86, the highest recorded level since 1979. Operating departments generally plan to limit overtime to 2% or 3% of their total wage budget, but Transportation (6.7%), Light Rail (6.9%), Automotive (5.7%), and Treasurer/Controller (7.9%) all clearly exceeded this level. This use of overtime warrants further examination to see whether these departments are adequately manned or require more stringent control.

The MBTA Police, who posted an unprecedented 22.5% of total wages in overtime, need special attention. The Authority must undertake a thorough analysis of police paper work, court appearances, duty details, etc. to determine whether to increase the size of the force and its support staff, or to restructure work assignments.

The Advisory Board reiterates concern that it is neither wise nor safe for individual employees to work overtime hours in excess of 20 per week for a long period of time. Although the practice is no longer as widespread as it once was, T records indicate that during FY86 some employees still averaged 30 or more hours overtime per week for several months at a time.

4:3:2 Pensions

The increase in pension expense is directly related to the August, 1985 contract settlement which shifted 4% of pension contribution from the employee to employer. Because the Authority's contribution is figured on an actuarial basis, the T was able to fund this 4% increase with a 3% MBTA contribution.

In addition, a new pension plan was established in January, 1986 for executive employees not already in the Authority's base plan. Expense for the new plan during the first six months totaled $136,012.

4:3:3 FICA

The unplanned $1.2 million increase in the FICA line item was directly related to the increase in the Wage line.

4:3:4 Worker's Comp

Considering it in the long run interest of the T, the Authority asked for a transfer of funds to pay a lump sum settlement of $287,000. In addition, hours lost to industrial accidents rose 6.5% while the budget had assumed a leveling off of such time lost. Both factors contributed to the $1 million overrun.

4:3:5 Unemployment

The rate of increase of unemployment benefits exceeded expectation, and the T saw a substantial increase in benefits paid to pregnant operators temporarily disqualified from driving and unable to be placed in other work.

4:3:6 Uniforms

The August, 1985 contract settlement increased the number of uniforms allotted to each uniformed T employee. The settlement followed the approval of the budget by some nine months.

4:3:7 Materials

Expenditures for this line rose 12.6% or $5.6 million over the origi-

nal budget. Part of this overrun was an approved transfer of $912,309 from so-called surplus in Fixed Charges to cover the cost of special maintenance projects.

As previously noted, insurance costs, utility expense, supplies and contracts (including consultants) all accrue to the Materials budget line. Insurance costs, reflecting a rise in price rather than an extension of benefits, increased $1.5 million. The insurance overrun was almost offset by utilities which came in $1.1 million under budget. Cleaning contracts ran slightly under budget, but the sum of other contracted services exceeded budget by $24 million. Materials (supplies) cost $2.6 million more than the approved level. Maintenance incurred all supplies overruns: Heavy Rail, $1.9 million; Automotive, $0.3 million; Engineering and Maintenance facilities, $0.4 million. Major service overruns were posted by the Treasurer/Controller, $0.6 million; Law, $0.5 million; and Real Estate Departments, $1.3 million.

4:3:8 Injuries and Damages

The original request and the approved FY86 budget were for $5 million. The actual expense was $7.2 million. The Authority was initially reluctant to fund this account at the expected level of expenditure because of increasingly large awards granted by juries for tort cases. The appearance of excess funds for settlements or judgments might influence case outcomes. Experience taught the T the folly of this strategy since payment of legal obligations is not subject to line budget limits. Even when funding this item at more realistic levels, final expenditure is not always predictable.

The T has renewed efforts on safety because of the recent sharp increase in expense for this line. The FY87 budget contains significant in-

creases to fund expanded programs by the Safety Department. In addition, the Authority continues to back legislation to cap MBTA liability.

4:4 Line Item Surpluses

4:4:1 Blue Cross/Blue Shield

The $3.8 million apparent savings in the Blue Cross/Blue Shield line resulted from the lag time involved in the budgeting process and an inaccurate accrual by the MBTA. An accounting error failed to include a payment owed to BC/BS but withheld pending settlement of an administrative dispute. Real savings are reflected in the slowdown of rising health care expenses. Hospital cost legislation passed several years ago by the General Court and the low inflation rate of the past few years have contributed to the lowered rate of increase.

Blue Cross/Blue Shield costs have risen just 2.1% between FY 1984 and FY 1986, or an average of 1.0% annually. The number of T employees, however, has risen an estimated 10%. By contrast, between 1980 and 1984 the average annual increase in BC/BS was 12% and the number of employees fell an estimated 2% to 8%. (Complete manpower figures are unavailable for the period in question). Although the true cost of T health insurance is greater than that recorded, no one expects the rapidly increasing rate of the early 1980s to recur.

It is too soon to attribute any savings to administrative changes implemented by the Authority in January, 1986 as well as a switch to Master Health Plus as the primary BC/BS plan. FY87 should reflect the first impact of Authority action. In the future the T expects to keep health care costs under control without sacrificing quality health care for employees.

4:4:2 Unfunded Debt

Interest rates fell well below the best estimate of most forecasters. When the FY86 budget was approved in the fall of 1984, most economists were predicting a rise in interest rates after the Presidential election. In October, 1984 the Authority sold one year notes at 7.15%. By the spring of 1986 the T's notes sank to 5.25%. Tax exempt commercial paper, which averaged 6.2% in the summer of 1984, hovered around 4.8% throughout FY86.

4:4:3 Fuel

The fuel line item includes expense for diesel fuel, leaded and unleaded gasoline, and electricity to power rapid transit and streetcars. Total expense in this line item depends on fuel price, service miles, and rate of vehicle consumption of fuel or power. Fuel prices for FY86 were estimated at $.68/gallon while the year's actual expense averaged $.47/gallon. The cost of power per kilowatt hour was also lower than assumed, and the use of new RTS buses positively affected the fuel consumption for the year.

4:4:4 Fixed Charges

As stated above, a combination of lower interest rates and decisions about the amount, timing, and structure of debt produced significant savings. Because well-documented lists of capital programs and costs to be funded over the fiscal year have traditionally not been available during budget review time, it is impossible to compare planned expense with actual expense in FY86. The Advisory Board has long urged the Authority to produce a detailed, formal capital budget.

4:4:5 Local Service Subsidy

Four programs are funded from this line item: the RIDE; the Suburban Bus Program; the Private Carrier Program; and several longstanding contracted services. Below are the planned and actual figures for each program:

PLANNED		ACTUAL
$ 422,300	Suburban Bus Program	$ 303,145
2,995,550	The RIDE	3,158,738
(149,778)	(income)	(128,988)
2,845,772	Net	3,029,750
570,630	Private Carrier (continuing programs)	580,912
194,670	Private Carrier (new programs)	35,181

The Suburban Bus Program came in 28.2% below budget, while the RIDE spent 5.4% over and earned income 13.9% under for a budget overrun of 6.5%. Furthermore, the original allocation assumed expansion of the RIDE to 52 communities within the MBTA District by the end of FY86. Because of numerous problems with the program in the core area the RIDE reached just 22 communities. Woefully inadequate planning for the RIDE has necessitated reordering priorities for the coming year, strengthening the T's role in managing the program, and forcing substantial changes at THEM, Inc., the primary contractor. A full discussion of RIDE service can be found in Chapter 5.

The Private Carrier Program's total existing service contracts exceeded budget by 1.8%. The T's new service to the South Shore was planned to take over responsibility from the State for private carrier bus service

to Hull, Marshfield, and Canton once State funds from the Southeast Expressway reconstruction were exhausted. An amendment to the 1985 Transportation Bond Bill extended State subsidy of this service so that MBTA funds were not needed as originally indicated. With this unexpected surplus for private carrier service, the T offered a contract for service to Medford and a net savings over planned expenditures resulted.

CHAPTER 5: SERVICE PERFORMANCE

5:1 Bus and Trackless Trolley

The MBTA's extensive bus and trackless trolley network operates from eight separate garages (see Appendix D:1 for list of T garages and communities served). The Automotive Equipment Maintenance Department runs all garages except the North Cambridge carhouse, which is managed by the Light Rail Equipment Maintenance Department. Rating stations, run by Surface Lines, provide operators. A garage can serve more than one rating area; communities are often served by more than one rating area.

5:1:1 Revenue Miles and Trips Operated

Both bus revenue miles and trips operated increased in FY86 by 2.5% and 2.1% respectively. Lynn and Charlestown Garages decreased the number of trips scheduled while Bartlett and Fellsway posted significant increases of 19.6% and 9.2%. The larger increase at Bartlett reflects bus service substituted for part and/or all of Arborway service during portions of FY86.

5:1:2 Labor and Maintenance Costs

LABOR AND MAINTENANCE COSTS FOR FY85 AND FY86

	FY85	FY86	% Variance
Revenue Miles	21,613,281	22,266,175	3.02
Labor Cost	$44,407,907	$45,712,681	2.94
Per Revenue Mile	2.05	2.14	4.39
Maintenance Cost	$14,580,270	$14,908,633	2.25
Per Revenue Mile	0.67	0.67	0

Labor costs on the bus and trackless trolley network increased slightly from FY85 to FY86, while maintenance costs per revenue mile remained constant.

5:1:3 Trips Missed

The number of missed scheduled bus trips jumped by 7,000 or 42.7% in FY86. Although the number of missed trips remained less than 2% of the total scheduled trips, this increase merits a closer look. The MBTA classifies missed trips in three ways: vehicular problems, crew unavailability, and "miscellaneous." There were virtually no missed trips in FY86 due to unavailable vehicles, while the number of trips missed because of crew unavailability jumped 77.2%.

FY86 WEEKDAY TRIPS MISSED BY CAUSE

		%	Mean/Day
Trips Scheduled	1,758,628.0		
Trips Missed	24,456.0	1.4	94.1
Cause of Missed Trips			
Vehicle Not Available	252.0	1.0	.97
Crew Not Available	10,618.5	43.4	40.84
Vehicle Disabled	8,519.0	34.8	32.77
Miscellaneous	5,066.5	20.7	19.49

The problem was especially acute in North Cambridge, Fellsway, and Cabot garages, where labor accounted for 50% of trips missed. A thorough examination of labor issues at all the garages, especially Cabot, is long overdue.

Because reliable systemwide ridership data is nonexistent, it is difficult to measure the direct impact of these service statistics on individual riders. However, the increase in trips missed - especially

FY86 TRIPS MISSED BY GARAGE

Garage	Trips Scheduled	Trips Missed	% Sched.	# Trips Missed thru Crew Unavail.
Cabot	376,306.5	7,556.5	2.0	4,018.5
Bartlett	331,297.0	8,121.0	2.5	2,775.0
Charlestown	389,347.0	4,171.5	1.1	1,726.5
Albany	138,722.5	1,657.0	1.2	727.0
Quincy	156,107.5	1,082.5	0.7	519.5
Fellsway	140,819.0	751.5	0.5	383.0
Lynn	152,991.5	570.0	0.4	145.5
N. Cambridge	73,037.0	546.0	0.7	323.5

because of crew unavailability - should raise a flag. The T's failure to track on-time performance further inhibits analysis of the impact of service statistics on passengers. The 98% reliability figure for scheduled trips seems to indicate a high level of service, but there is no way to verify when trips actually ran. An Advisory Board report on Bus Service Reliability (September, 1986) indicates that individual bus departure and arrival times can be highly erratic. Based on its own survey of scheduled versus actual time between buses on various routes, the Advisory Board determined that bus service is unreliable too often.

Between October and December, 1985 the MBTA took delivery on 200 Advanced Design RTS Buses from General Motors. An additional 180 buses will be delivered by the third quarter of FY87, which will put the total RTS fleet at 380, or 46% of all MBTA buses. The first 200 buses have been distributed among the seven bus garages, and initial reports from the Authority suggest that they have improved the durability and reliability of the entire fleet.

5:2 MBTA Streetcars

The MBTA Green Line operates streetcar service along four combination subway/surface routes. In addition, the T runs streetcars on a three mile

route between Ashmont Station on the Red Line and Mattapan Square. Unlike the Green Line, the Mattapan/Ashmont Line features single car operation along welded rail on concrete ties with only one grade crossing. This contrasts sharply with Green Line service, which uses many two-car LRV trains run along track laid on wooden ties. In addition, Green Line routes frequently cut across heavily travelled streets to create congested intersections.

5:2:1 Revenue Miles and Scheduled Trips

Streetcar service saw significant changes during FY86. Both revenue miles and scheduled trips declined 7.6% and 2.6% respectively. The Arborway line suspended service from December, 1985 through July, 1986; the Boston College line increased its scheduled trips by more than 30%; while the Beacon Street line decreased trips by 8%. Keeping approximately the same service level as FY85, Riverside shifted more of its service to peak, especially evening rush hours. The Beacon line followed a similar schedule but reduced the number of trips by an average of 20 per day. Despite the cutbacks, Beacon actually increased rush hour capacity by 9% in the morning and 15% in the evening.

It is difficult to tell whether the shift in service hours or increase in Boston College trips better met Green Line commuter demand because the Authority does not have ridership information on people left on the platform. Informal feedback indicates rush hour service has deteriorated, causing long waits and uncomfortably crowded cars. Daily riders tell the Advisory Board that they eagerly await the new Type 7 cars expected to arrive from Japan during FY87-88.

5:2:2 Trips Missed

During FY86 the number of missed trips rose to 2.8%. This increase, while below the CY83 (4.6%) and CY84 (3.4%) levels, reverses the positive trend begun in FY85 when missed trips fell to less than 2%. Vehicle problems accounted for most of FY86 missed trips.

There is little indication that other unmeasured service components have improved. Air-conditioning on Green Line LRVs remains unreliable, destination sequencing of trains still appears haphazard and severe overcrowding persists on rush hour cars. The new practice of announcing to passengers which trains are entering Park Street, what line they will travel, and where they will stop to pick up passengers inside the station, represents an improvement in service.

MBTA STREETCAR SERVICE PERFORMANCE, FY85 AND FY86

	FY85	FY86	Increase (Decrease)	% Variance
Revenue Miles	5,193,470.0	4,866,927.0	(326,543.0)	(6.29)
Scheduled Trips				
Weekday	276,255.0	269,127.0	(7,128.0)	(2.58)
Weekday Trips Missed	5,447.5	7,605.0	2,157.5	39.6
Cause of Missed Trips:				
Vehicle Problems	1,859.5	2,949.0	1,089.5	58.59
	34.13%	43.51%		
Crew Unavailable	1,022.0	1,388.0	366.0	35.81
	18.76%	18.25%		
Miscellaneous	2,566.0	2,908.0	342.0	13.33
	46.92%	38.24%		
Operating Cost	$11,992,070	$14,631,795	$2,639,725	22.01
Cost/Revenue Mile	$2.31	$3.01	$0.70	30.30
Maintenance Cost	$9,298,539	$10,430,357	$1,131,818	12.2
Cost/Revenue Mile	$1.79	$2.14	$0.35	19.7

5:3 Heavy Rail

The MBTA's three heavy rail lines consist of the Red, Orange and Blue Lines. The Red Line runs from North Cambridge to Ashmont Station in Dorchester and to Braintree on the South Shore; the Orange Line from Oak Grove in Malden to Forest Hills in Jamaica Plain; and the Blue Line from Bowdoin in downtown Boston to Wonderland in Revere.

5:3:1 HEAVY RAIL REVENUE MILES AND SCHEDULED TRIPS

HEAVY RAIL REVENUE MILES

Line	FY85	FY86	Change	%
Red	7,206,982	7,403,130	196,148	2.72
Blue	2,431,962	2,480,277	48,315	1.99
Orange	4,037,958	3,998,799	(39,159)	(0.97)
Total	13,676,902	13,882,206	205,304	1.50

HEAVY RAIL TRIPS SCHEDULED AND MISSED

Line	FY1985 Sched.	FY1985 Missed	%	FY1986 Sched.	FY1986 Missed	%
Red	60,642.0	2,486.5	4.1	57,951.0	2,665.5	4.6
Orange	44,968.0	203.5	0.5	40,258.0	202.0	0.5
Blue	42,828.0	138.0	0.3	42,828.0	212.5	0.5
Total	148,438.0	2,828.0	1.9	141,307.0	3,080.0	2.2

Total heavy rail revenue miles increased 1.5% in FY86, from 13,676,902 in FY85 to 13,882,206. Though mileage increased, the number of trips run on heavy rail fell by 5.1% and the average service during rush hour measured by the number of cars passing key points between 6:30 - 9:30 AM and 3:30 - 6:30 PM decreased by 4.8%. Thus, on an average weekday during FY86 there were 80 fewer cars carrying passengers during rush hour than in the previous year. The impact of these service changes on the individual lines are detailed below.

5:3:1:1 Red Line

The opening of the Northwest Corridor Extension during FY86 added three rail stations and 2.53 miles to the Red Line. Trips per day decreased by 11 to enable the limited fleet to serve the now longer line. For the most part the small change in headways necessitated by the decrease in trips was probably not even perceptible to the average rider. The concurrent decrease in rush hour cars in service was more likely to have been felt by the daily commuter.

On average, 20 fewer cars travelled the Red Line each weekday rush hour during FY86. Interestingly, off peak capacity seems to have increased during the same period. Without information on ridership demand it is difficult to assess whether this shift in service realigned capacity and demand in a more efficient way or represented a significant deterioration in service, especially for rush hour commuters. Staff observation of Red Line crush loads during rush hour and complaints from Advisory Board members and the public would indicate the latter. The recorded increase (approximately 9%) in Red Line fare revenue for FY86 further supports the view of more passengers squeezed into fewer cars.

5:3:1:2 Orange Line

The Orange Line posted a significant cutback in service during FY86. Revenue miles declined 1%; trips operated decreased 9.9%; and rush hour capacity declined 8.7%. Most, if not all, of this cutback is attributable to the reopening of commuter rail service to the North after reconstruction of the two railroad bridges destroyed by fire in 1984. How this readjustment met the needs of Orange Line riders is difficult to tell without data on ridership demand.

Interestingly, fare revenue for this line remained at the FY85 level. It is difficult to deduce what this says about ridership during FY85 and FY86 since many passengers were commuter rail riders forced to use the Orange Line during the B&M strike as part of a linked trip.

5:3:1:3 Blue Line Service

Though the service area remained the same as in FY85, the number of revenue miles increased by 2%. This indicates more capacity on the line each day. Since actual trips each workday decreased slightly (.2%), one can conclude that there was greater use of four-car rather than two-car trains. Perhaps there was also an increase in weekend and holiday service. A small decrease in rush hour capacity and an increase in weekday 24 hour capacity indicate that the additional cars were added to off-peak trips. Again, it is impossible to evaluate the impact or efficiency of this move without information on rider demand in the corridor served by the Blue Line. Fare receipts for the Blue Line increased an estimated 6% in FY86.

5:3:2 Scheduled and Delivered Throughput

THROUGHPUT FY85 - FY86

LINE	FY1985 SCHED T'PUT	FY1985 ACTUAL T'PUT	FY1986 SCHED T'PUT	FY1986 ACTUAL T'PUT	FY1985 % DELI-VERED	FY1986 % DELI-VERED
Red	198,448	184,885	183,576	179,224	93.2	97.6
Orange	163,852	170,584	154,188	155,820	104.1	101.1
Blue	78,684	83,166	78,684	81,974	105.7	104.2
TOTAL	440,984	438,635	416,448	417,018	99.5	100.1

During FY86 the Orange and Blue Lines were once again able to deliver most all of their scheduled service. Trips missed represented one half of

one percent, or less than one trip per day on average for both lines. On the other hand, the ability to deliver service on the Red Line deteriorated. Scheduled trips missed increased from 4.1% in FY85 to 4.6% in FY86. The Red Line failed to deliver 10.7 trips on the average weekday. According to MBTA figures, disabled and unavailable vehicles caused almost two-thirds of these missed trips. The expected arrival in late 1987 of 58 Red Line cars manufactured by Can-Car Rail should alleviate this situation.

5:3:3 Vehicle Availability

VEHICLE AVAILABILITY FY85 - FY86

LINE	FY1985 VEHICLES REQ.	FY1985 VEHICLES AVAIL.	FY1986 VEHICLES REQ.	FY1986 VEHICLES AVAIL.	FY1985 % AVAIL	FY1986 % AVAIL
Red	60,256	60,440	61,752	61,608	100.3	99.8
Orange	41,288	47,786	36,984	45,528	115.7	123.1
Blue	23,904	30,110	23,904	30,436	126.0	127.3
TOTAL	125,448	138,336	122,640	137,572	110.3	112.2

For FY85 and FY86, mean daily vehicles available was just over 277 per day. The drop in vehicles required on the Orange Line can be attributed to the return of commuter rail service following bridge repair. The slight increase in Red Line vehicular requirements reflects the extension of the line to Alewife. In order to maintain Red Line operating schedules, more vehicles have to leave each terminal every day to make up for the longer trip.

5:3:4 Labor Costs

Labor expense, the cost of staffing trains and stations per revenue mile, fell by 2.74% overall in FY86. The Orange and Blue Lines experienced drops of 8.22% and 4.38% respectively, while Red Line labor expense in-

creased by .58% per revenue mile. Two changes in operating practices probably account for most of this overall decline in expense: decrease in use of overtime for drivers and operation of more four than two-car trains. Since only one driver and one guard are required to run a four-car train, replacing a two-car train with a four-car results in doubling passenger capacity while keeping labor expense constant.

HEAVY RAIL LABOR COST/REVENUE MILE

FY85

Line	Labor Cost ($)	Revenue Miles	Dollar/ Rev. Mile
Red	12,298,453	7,206,982	1.21
Blue	4,440,723	2,431,962	1.83
Orange	8,343,208	4,037,958	2.07
Total	25,082,384	13,676,902	1.83

FY86

Line	Labor Cost ($)	Revenue Miles	Dollar/ Rev. Mile	% Change from FY85
Red	12,753,008	7,403,130	1.72	0.58
Blue	4,348,158	2,480,277	1.75	(4.38)
Orange	7,611,578	3,998,799	1.90	(8.22)
Total	24,712,744	13,882,206	1.78	(2.74)

5:3:5 Vehicle Maintenance Costs

Direct vehicle maintenance costs rose 31.4% in FY86. This expense includes the cost of routine maintenance but does not include major repairs and support, which is done at the Authority's Everett Shop Complex. Direct expense on the Red Line rose 47%, most of which can be attributed to three factors: a one time Cabot car house maintenance and materials expense; the purchase of brake packages as part of an Advisory Board approved preventive maintenance program; and an FY85 contract adjustment of $517,500. Net of these three one-time costs, maintenance expense on the Red Line increased

8.7%. Excluding these costs once again, the overall maintenance increase was 11%.

5:3:6 Service Delays

Although each of the three lines experienced service disruptions during FY86, the Red Line registered the most serious delays. According to Red Line officials, most delays were caused by vehicle failures and signal difficulties. Reports from passengers persisted throughout FY86 of service disruptions such as long unexplained waits in the tunnel. Too often no information was given to passengers concerning the cause of delay or the estimated time of resumption of normal service.

During FY86 installation of an Automatic Train Operation (ATO) system, which allows dispatchers at the Authority's Central Control facility on High Street to monitor and regulate all Red Line operations, was completed. The previous year the ATO system had been in use only on the Braintree and Ashmont branches of the Red Line beyond Andrew and on the Northwest Extension beyond Harvard. The Authority is installing the ATO system on the Orange Line's Southwest Corridor.

5:3:7 Capital Projects

Fiscal Year 1986 saw further advances in the Authority's station modernization project. In July, 1985 renovation of Kendall station began. Currently, the Authority is upgrading ten stations: from Andrew to Central (except Charles) on the Red Line, and Essex and State Street on the Orange Line. In addition, the MBTA has replaced track beds, ties, and switches between Harvard and Park Street. The opening of the Harvard Square busway in September, 1985 concluded years of construction work.

Construction also continued on the Southwest Corridor project, which consists of a 4.7 mile relocation of the Orange Line from a point 2,500 feet east of Back Bay station to Forest Hills station in Jamaica Plain. The new line is expected to open in May, 1987.

In an effort to improve the physical environment of the MBTA underground system, 20 works of art were dedicated in Red Line stations from Harvard to Alewife. Response to this program, called Arts on the Line, was enthusiastic and led to a decision to install displays in other subway stations, including the new Southwest Corridor.

5:4 Commuter Rail Service

The MBTA commuter rail network consists of eight railroad lines, four originating at North Station and terminating in northern and northwestern suburbs, and four originating at South Station and terminating in points south and southwest of Boston.

Fiscal Year 1986 proved turbulent for commuter rail. Effects of a fire in November, 1984 on the railroad bridge over the Danvers River continued to disrupt service on the Eastern Line until December 1, 1985.

5:4:1 B&M Strike

More problems plagued the rail network in the new year. On March 3, 1986 employees of Maine Central went on strike against their employer, Guilford Transportation. The latter also owns the B&M railroad, which operates Boston's commuter rail service under subcontract to the MBTA. On March 12 B&M employees announced a strike which disrupted rail service for two and one half months until May 21.

Hardest hit were northbound riders. Service to southern routes terminating in Attleboro, Franklin, Framingham, and Stoughton experienced dis-

ruptions for only three days; during the rest of the strike the railroad maintained full southbound service. On its northern routes commuter rail hastily assembled a makeshift shuttlebus system and skeletal crews kept as many trains as possible in service. The effects of the B&M strike can be seen clearly in the decline of the total number of trains operated during the months of March, April, and May.

NUMBER OF TRAINS OPERATED, FEBRUARY THROUGH JUNE 1986

Month	Trains Run	% of February Trains Run
February	5,777	
March	4,039	69.9
April	2,965	51.3
May	4,534	78.5
June	6,623	114.6

On the morning of May 9, while northern line commuters were beginning their third month without full service, catastrophe hit the rail system again. As it was rounding a bend in Brighton, a Framingham train bound for South Station crashed into an idle Conrail freight train. Although the commuter train was traveling around 20 MPH, the crash impact left 200 passengers injured. Eight passengers were seriously injured, but fortunately there were no fatalities.

5:4:2 On-Time Performance

Despite the numerous setbacks experienced by commuter rail in FY86, overall on-time performance remained at or near previous levels when trains operated normally: 94.5% of trains in FY86 ran on-time (no more than five

minutes ahead or behind schedule). These are reliable statistics since commuter rail is the only major MBTA service for which on-time performance is tracked. The T categorizes seven reasons for delay; equipment failure accounted for nearly 35% of the late runs.

REASONS FOR COMMUTER RAIL DELAYS

Reason	%Total FY85	%Total FY86	Avg. Delay (Min) FY86
Crew-Related	0.85	1.8	14.3
Dispatching	7.29	5.4	16.6
Equipment	36.43	34.6	18.6
Signal Problems	11.35	22.3	17.1
Track Problems	23.98	11.1	10.0
Vandalism	1.56	2.1	12.8
Miscellaneous	18.54	21.2	16.5

On-time performance in FY86 varied among routes, but no route fell below 90% efficiency.

ON-TIME PERFORMANCE BY ROUTE

Route	FY85 %On-Time	FY86 %On-Time	CY86 %On-Time
Eastern (Rockport)		90.5	91.6
Western (Haverhill)		95.6	92.2
N. Hampshire/Lowell		94.8	92.8
Fitchburg		94.3	89.4
Northside Average	92.5	93.6	9.17
Attleboro		96.7	92.7
Stoughton		96.3	95.4
Franklin		96.9	93.8
Framingham		90.1	92.2
Southside Average	94.1	95.9	93.6
Total System	93.3	94.5	92.5

5:4:3 Ridership Statistics

During the time of the northside B&M strike (see column three below),

commuter rail ridership declined significantly, even though historically ridership has grown at a healthy pace on both sides of the commuter rail system. Column four, however, shows ridership figures rebounding at the end of the strike and posting an even greater increase. This pattern indicates that commuter rail can expect large ridership gains in the future.

RIDERSHIP JANUARY, 1985 TO DECEMBER, 1986

	1/1/85 - 6/30/85	7/1/85 - 12/31/85	1/1/86 - 6/30/86	7/1/86 - 12/31/86
Rockport	884,363	999,346	838,236	1,130,013
Haverhill	467,659	640,184	391,364	665,112
Lowell	573,667	693,025	523,861	769,246
Fitchburg	606,216	677,350	393,099	680,970
Attleboro/ Stoughton	1,613,434	1,649,452	1,760,819	1,768,380
Franklin	878,914	896,582	939,710	949,316
Framingham	577,862	563,874	600,289	637,627
TOTAL	5,602,115	6,119,813	5,447,378	6,600,664

5:4:3:1 Capacity Problems

COMMUTER RAIL SOUTHSIDE CAPACITY
WEEK OF 2/3 TO 2/7/86

AM Inbound Rush

Line	Train No.	Total Seats*	Avg. Psgr. Count	Psgr./ Seats
Attleboro	8112	600	750.6	1.251
	8114	700	852.6	1.218
	8118	400	680.0	1.7
	8124	400	586.8	1.467
Stoughton	8910	500	601.0	1.202
	8914	800	999.2	1.249
	8920	400	507.6	1.269
	8926	600	407.2	.679

5:5:2 Lift-Equipped Buses

The T's 24 hour advance notice, lift-equipped bus program began operation in January of 1986. This program allows a passenger to schedule a lift bus at a specific time on most MBTA bus routes. (Eight routes which require smaller 35 foot buses are excluded from the program). The lift bus does not deviate from the regular schedule or route. A second lift bus is assigned as backup to the requested bus to try to ensure that the passenger is not inadvertently left stranded. Subscription service is available to frequent passengers. During its first six months of operation, the program received 280 requests for lifts. Information from agencies working with disabled persons and the experience of other transit systems suggest that there is considerable latent demand for such service. If the system proves reliable and riders learn of its availability, requests should multiply.

The lift program, however, has numerous problems to overcome. At first, drivers did not know how to operate the various types of lifts because a slide-tape training film was not ready by the time the program started. On the older flyer buses, the front door lifts proved unreliable in the cold winter months. The newer RTS buses with rear door lifts were too often dispatched without the key necessary to operate the lift. While most of these mechanical problems have been addressed, scheduling, especially when a transfer is involved, remains problematic and passengers in wheelchairs have been stranded.

5:5:3 Special Needs Fare Schedule

In December, 1985, the MBTA Board of Directors approved a proposal to revise the schedule of fares for passengers with Special Needs passes. In March of 1986 the Advisory Board approved the T proposal, and the schedule became effective May 1, 1986: $.10 for local bus and rapid transit; half price for all other service. During the debate on fare changes, the Advisory Board formally requested the MBTA to produce a statement detailing its policies on accessibility and its plans for implementation. During the summer of 1987 the T Board of Directors intends to issue a formal statement.

5:5:4 Unresolved Accessibility Needs

Although the MBTA made strides toward total accessibility in FY86, the system still has a long way to go. The T must put serious effort into making mainline service both available and attractive to people with disabilities. It must address the following concerns: accessibility of Orange Line replacement service; progress on dealing with access to the Green Line; clear and consistent use of signage and announcements to riders; access to commuter rail and commuter boat; improved sensitivity training for MBTA personnel; and a snow removal plan for maintaining access.

of commuter rail costs covered by fares translated into a subsidy per passenger more than twice that for T delivered service.

A detailed analysis of changes in commuter rail expense from FY85 to FY86 and a comparison of budgeted to actual expense for FY86 is not included for several reasons. In the last few years the budget submitted to the Advisory Board for commuter rail has differed in format from the final expenditure figures available to the Board. This resulted from B&M and the MBTA using different accounting systems and the failure of T personnel to provide consistent reconciliation of figures from year to year. Changes in the budgeting/accounting systems and changes in key personnel during FY87 in the Commuter Rail Department will hopefully eliminate the problem for future years. A breakdown of actual expense for FY86 is provided in Appendix D:4.

5:5 The RIDE and Other Accessible Services

5:5:1 The RIDE

During FY86 the MBTA extended the RIDE, its paratransit service for the disabled, to nine new communities; instituted a reduced special needs fare; and initiated a 24 hour call-ahead lift-equipped bus program. In addition, the Authority expended considerable energy improving and upgrading RIDE service within the original core area (consisting of Boston and its immediate suburbs).

By the end of FY86 the RIDE serviced 22 of the 78 communities in the MBTA District. Them, Inc., contracted to operate the RIDE in the core area, while Share-a-Ride of Lexington provided service in the northwest. During the year both service hours and trips completed increased 48% as rider demand in the core area surged to a new high of 236,456. Since service to

the northwest area (including Lexington, Concord, Lincoln, Bedford, Burlington, Wilmington, Woburn, and Winchester) did not begin until late May 1986, statistics for FY86 pertain to the 13 communities in the core area.

The table below compares how trip requests were handled in FY85 and FY86. In FY86 4.3% of trips requested were denied for lack of vehicles or personnel. Because of a vast increase in requests for the RIDE, the number of people affected by denied requests rose 20.3%, even though the percentage of total requests denied actually declined. Two per cent fewer trips were cancelled in FY86, reflecting increased efficiency due to a new computer scheduling system. Continuation of the 72-hour advanced notice requirement, however, ensures that cancellations will remain a problem. By the end of 1987 the Authority hopes to reduce the notification requirement to 24-hours. This move should further decrease the cost of operation as well as greatly increase convenience to riders.

FY86	RIDE TRIPS	FY85
77.5%	completed	75.5%
4.3	not available	5.1
13.7	cancelled	15.7
4.2	no shows	3.6
0.4	missed	0.1

5:5:1:1 Cost of Service

The cost of the RIDE per service mile rose just 0.5% to $1.91 during FY86 and the cost per service hour rose 4.2% to $20. As the RIDE begins service to less densely populated areas the expense per hour and per service mile may become prohibitive unless more cost effective transportation is utilized. Since many RIDE patrons are able to use a traditional taxi and do not require a lift-equipped van, the T must explore use of taxis and other less costly vehicles.

Franklin	7112	700	852.2	1.217
	7314	400	687.8	1.719
	5312	400	646.0	1.615
	5318	600	730.0	1.217
	5324	600	639.8	1.066
Framingham	5308	200	276.6	1.383
	5312	400	646.0	1.615
	5318	600	730.0	1.217
	5324	600	639.8	1.066
		8,500	10,617.4	1.249
Total AM				

PM Outbound Rush

	Train No.	Total Seats*	Avg. Psgr. Count	Psgr./ Seats
Attleboro	8161	600	847.6	1.412
	8167	700	904.0	1.291
	8173	500	625.2	1.250
Stoughton/ Canton	8359	600	329.0	.548
	8963	400	471.4	1.179
	8969	800	1078.4	1.348
	8973	400	398.6	.997
Franklin	7159	400	384.6	.962
	7363	400	464.8	1.162
	7165	700	944.2	1.349
	7169	700	830.2	1.186
Framingham	5361	400	452.4	1.131
	5363	400	459.2	1.148
	5369	600	547.6	.913
	5373	600	450.4	.751
		8,200	9,187.6	1.120

* One hundred seats per coach is assumed.

Growing commuter rail ridership threatens to exacerbate an existing problem. During a sample commuter week in FY86 only six of 31 southbound trains had enough seats for all passengers. On three of the trains the average rush hour crush found 70 passengers standing for every 100 seated per car. In general, southside trains ran with approximately 20% of rush hour passengers standing in the morning and 11% standing in the evening.

On-time performance and ridership data exists for commuter rail service because the provider is required, under subcontract to the MBTA, to collect such information. Incongruously, the Authority does not collect similar data for services it operates directly.

5:4:4 Cost of Service

The total cost of commuter rail service in FY86 reached $70.6 million, a 4.5% increase over FY85. Of the total, $1.7 million was spent on substitute service to accommodate riders whose train service was disrupted for extended periods. In addition, $6.3 million was accrued for expected labor related expenses and possible retroactive wage increases.

COST OF MBTA RAILROAD OPERATIONS

	FY86	FY85	FY84
Total Cost	$70,580,208	$67,510,365	$63,032,581
Total Revenue	17,594,017	16,781,529	16,957,609
Net Cost	52,986,191	50,728,836	46,074,972
Rev/Cost Ratio	24.9%	24.9%	26.9%
Ridership	11,577,221	11,274,177	11,326,872
Subsidy/Passenger	$4.58	$4.50	$4.07
Revenue Miles	7,729,163	8,430,927	8,148,248
Net Cost/Rev Mile	$6.86	$6.02	$5.65

The T subsidy, or net cost per passenger, rose 1.8% to $4.58 in FY86. The estimated subsidy per passenger on direct T service during FY86 was $2.00. The net cost per revenue mile for commuter rail ($6.86) was 29.4% higher than the cost per revenue mile of T service ($5.30), the limited passenger capacity of commuter rail cars and the relatively low percentage

of commuter rail costs covered by fares translated into a subsidy per passenger more than twice that for T delivered service.

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APPENDICES

MBTA EXPENDITURES FY84 - FY86

	FY86	% 86-85	FY85	% 85-84	FY84
INCOME					
Rev from transportation	104,814,370	1.57	103,189,675	5.84	97,498,518
Rev from other rwy. operations	6,100,915	26.17	4,835,640	24.67	3,878,601
Non-operating income	11,227,107	35.26	8,300,476	11.30	7,457,562
Gas & diesel taxes reimbursable	465,300	(.91)	469,569	(4.07)	489,500
Reimbursement from outside district	638,926	1.49	629,535	(14.96)	740,279
TOTAL INCOME	123,246,618	4.96	117,424,895	6.69	110,064,460
EXPENSES					
WAGES	180,727,387	7.34	168,374,446	10.11	152,912,670
Gen & adm cost capitalized	(1,517,799)	30.56	(1,162,553)	(23.05)	(1,510,752)
MBTA pensions	29,530,242	26.15	23,408,673	8.83	21,509,171
F.I.C.A.	14,234,999	7.50	13,241,960	11.83	11,841,200
Workmen's comp.	5,964,985	9.01	5,472,010	8.49	5,043,955
Acc. & sickness ins.	521,059	6.90	487,432	31.88	369,603
Group life ins.	555,445	13.25	490,452	(5.99)	521,722
Blue Cross/Blue Shield	22,850,384	5.13	21,734,390	(2.88)	22,379,754
Unemployment ins.	195,024	97.39	98,800	71.83	57,500
Uniforms & work clothes	853,384	34.79	633,116	27.69	495,812
Fringe benefits cost capitalized	(8,856,389)	16.42	(7,607,292)	(6.89)	(8,170,337)
OPERATING WAGES & FRINGE BENEFITS	245,058,721	8.83	225,171,434	9.60	205,450,298
Materials & other items	50,269,283	25.31	40,116,225	(.11)	40,160,148
Injuries & damages	7,175,291	43.51	5,000,000	5.80	4,726,062
Interest unfunded debt	13,340,144	(18.21)	16,310,463	27.31	12,811,548
Fuel	19,048,147	(13.32)	21,976,489	(3.94)	22,877,640
Taxes (other than above)	1,091,668	8.36	1,007,422	1.40	993,494
Railroad commuter subsidy	52,986,189	1.39	52,260,500	13.42	46,074,972
Local service subsidy	3,948,989	51.86	2,600,403	19.64	2,173,480
TOTAL OPERATING EXPENSES	392,918,432	7.81	364,442,936	8.70	335,267,642

	FY86	%86-85	FY85	%85-84	FY84
Int. on funded debt (MTA)	4,687,839	(2.10)	4,788,152	.53	4,763,066
Int. on funded debt (MBTA)	48,792,168	18.42	41,202,753	8.12	38,108,974
Payment on funded debt (MTA)	2,875,812	(.06)	2,877,426	2.11	2,817,926
Payment on funded debt (MBTA)	20,887,356	8.75	19,207,500	7.07	17,940,000
Misc. & bank charges	617,942	50.50	410,597	162.62	156,346
FIXED CHARGES	77,861,117	13.69	68,486,428	7.37	63,786,312
TOTAL CURRENT EXPENSES	470,779,549	8.74	432,929,364	8.49	399,053,954
COST OF SERVICE IN EXCESS OF INCOME	347,532,931	10.15	315,504,469	9.18	288,989,494
STATE FIN. CONTRACT (MTA)	3,000,000	.00	3,000,000	.00	3,000,000
STATE FIN. CONTRACT (MBTA)	62,250,778	16.92	53,241,837	7.42	49,566,009
STATE FIN. CONTRACT (RR)	8,700,167	(3.49)	9,015,122	33.23	6,766,781
FEDERAL OPERATING FUNDS	20,879,430	(21.18)	26,488,551	24.14	21,338,201
NET COST OF SERVICE (LOSS)	252,702,556	12.94	223,758,959	7.41	208,318,503

MBTA REVENUE, EXPENSE AND DEFICIT CY74 - CY86

	CY 1986	CY 1985	CY 1984	CY 1983	CY 1982	CY 1981
Fare Revenue	106,664,373	104,507,979	101,021,209	94,940,086	93,272,962	81,811,655
Total Revenue	125,147,108	120,867,565	111,872,820	108,172,694	106,153,152	104,168,096
Total Operating Expenses	404,854,568	378,800,494	353,531,695	319,842,100	308,726,001	310,999,428
Fixed Charges	81,579,084	73,576,132	65,528,618	59,674,915	48,781,090	37,842,184
Total Current Expenses	486,433,652	452,376,626	419,060,313	379,517,015	357,507,091	348,841,612
State Contract Assistance						
- Debt (MTA)	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
- Debt (MBTA)	64,841,980	58,994,100	50,695,002	46,176,296	37,660,762	29,906,496
- Other	9,245,699	9,197,758	7,680,636	6,041,754	6,004,137	6,601,398
Federal Operating Assistance	20,544,621	21,338,201	26,498,651	21,338,201	23,199,913	26,236,287
NET COST	263,654,244	238,979,002	219,313,204	194,788,070	181,489,127	178,929,335
State	164,650,464	154,658,607	125,543,540	104,862,532	91,646,309	96,404,825
Cities & Towns	107,483,780	104,862,224	102,304,609	99,809,375	97,375,000	95,000,000
Interest	8,500,000	9,104,100	8,534,946	9,883,838	7,532,182	12,475,490

SOURCES OF INCOME/SUPPORT AS PERCENTAGE OF TOTAL EXPENSE

	%	%	%	%	%	%
STATE DEBT ASSISTANCE	13.71	13.43	12.56	12.63	11.14	9.11
STATE REIMBURSM. FOR RR	1.87	1.99	1.80	1.55	1.64	1.83
STATE SHARE NET COST	33.27	33.51	29.36	26.93	25.11	26.68
CITIES/TOWNS SHARE NET COST	21.72	22.72	23.93	25.63	26.68	26.29
FEDERAL OPER. ASSISTANCE	4.15	4.62	6.20	5.48	6.36	7.26
MBTA REVENUE	25.29	26.19	26.16	27.78	29.08	28.83

* interest is included in cities and towns total but not in Net Cost

MBTA REVENUE, EXPENSE AND DEFICIT: CY74 - CY86

	CY 1980	CY 1979	CY 1978	CY 1977	CY 1976	CY 1975	CY 1974
Fare Revenue	66,197,081	56,727,494	55,196,145	53,472,739	53,122,315	51,275,620	51,539,522
Total Revenue	86,335,233	75,042,029	67,670,039	61,813,271	60,449,410	65,824,322	64,736,109
Total Operating Expenses	306,010,179	261,974,074	233,502,985	217,887,481	194,336,784	183,039,544	167,853,879
Fixed Charges	36,983,637	35,162,333	33,087,251	29,866,441	28,888,841	29,335,049	25,390,906
Total Current Expenses	342,993,816	297,136,407	266,590,236	247,753,922	223,225,625	212,374,593	193,244,785
State Contract Assistance							
- Debt (MTA)	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
- Debt (MBTA)	26,524,496	23,840,018	21,696,562	18,532,455	17,468,582	17,828,444	14,120,045
- Other	4,699,274	2,419,692	1,305,265	501,565	519,082	275,563	2,445,761
Federal Operating Assistance	29,328,419	27,422,397	26,628,398	22,200,066	16,868,565	11,173,000	6,241,000
NET COST	193,106,394	165,412,271	146,289,972	141,706,565	124,919,986	114,273,264	102,701,870
State	105,851,000	83,345,000	72,241,000	62,732,000	56,950,000	52,370,000	47,674,145
Cities & Towns	101,740,488	91,913,741	80,628,652	84,142,099	77,422,792	73,123,805	69,779,096
Interest	14,485,094	9,846,470	6,579,680	5,167,533	8,502,298	8,420,583	5,559,215

	%	%	%	%	%	%	%
STATE DEBT ASSISTANCE	8.26	8.74	9.04	8.51	8.83	9.43	8.61
STATE REIMBURSM. FOR RR	1.31	.79	.48	.20	.22	.12	.23
STATE SHARE NET COST	29.61	27.15	26.45	24.80	24.58	23.72	23.98
CITIES/TOWNS SHARE NET COST	28.46	29.94	29.52	33.27	33.41	33.12	35.10
FEDERAL OPER. ASSISTANCE	8.20	8.93	9.75	8.78	7.28	5.06	3.14
MBTA REVENUE	24.15	24.45	24.77	24.44	26.09	29.81	32.56

SOURCES: Advisory Board Annual Reports
MBTA Statement of Facts to State Treasurer
(Summary Schedule I)

APPENDIX B:1

MBTA Pass Program Revenue: FY86

CALENDAR YEAR

PASS TYPE	# SOLD 1985	# SOLD 1984	PASS PRICE	REVENUE 1985	REVENUE 1984	% CHANGE REVENUE
A	199,244	205,565	18	3,586,392	3,700,170	-3.07
B	492,429	425,193	22	10,833,438	9,354,246	15.81
C	335,685	315,257	36	12,084,660	11,349,252	6.48
D	53,214	50,870	40	2,128,560	2,034,800	4.61
E	58,591	56,876	48	2,812,368	2,730,048	3.02
F	15,593	13,965	56	873,208	782,040	11.66
TOTAL	1,154,756	1,067,726		32,318,626	29,950,556	6.42

FISCAL YEAR

PASS TYPE	# SOLD 1986	# SOLD 1985	PASS PRICE	REVENUE 1986	REVENUE 1985	% CHANGE REVENUE
A	198,144	205,331	18	3,566,592	3,695,958	-3.50
B	515,066	454,309	22	11,331,452	9,994,798	13.37
C	347,811	322,234	36	12,521,196	11,600,424	7.94
D	55,096	52,484	40	2,203,840	2,099,360	4.98
E	59,953	58,393	48	2,877,744	2,802,864	2.67
F	16,478	14,554	56	922,768	815,024	13.22
TOTAL	1,192,548	1,107,305		33,423,592	31,008,428	6.45

MBTA EXPENDITURES FY86 - BUDGET TO ACTUALS

	ORIGINAL APPROVED BUDGET	MBTA SPREADS	BUDGET AFTER TRANSFERS	FY86 ACTUALS	VARIANCE: ORIGINAL TO ACTUAL	VARIANCE %
INCOME						
Rev from transportation	103,436,178	103,436,178	103,436,178	104,814,370	1,378,192	1.31
Rey from other rwy. operations	4,067,204	4,067,204	4,067,204	6,100,915	2,033,711	33.33
Non-operating income	9,800,000	8,950,000	9,800,000	11,227,107	1,427,107	12.71
Gas & diesel taxes reimbursable	450,000	450,000	450,000	465,300	15,300	3.29
Reimbursement from outside district	500,000	500,000	500,000	638,926	138,926	21.74
TOTAL INCOME	118,253,382	117,403,382	118,253,382	123,246,618	4,993,236	4.05
EXPENSES						
WAGES	176,580,625	184,026,182	180,807,223	180,727,387	4,146,762	2.29
Gen & adm cost capitalized	(1,761,806)	(1,587,651)	(1,761,806)	(1,517,799)	244,007	(16.08)
MBTA pensions	24,703,758	24,905,866	29,527,534	29,530,242	4,826,484	16.34
F.I.C.A.	13,029,471	12,881,326	14,258,267	14,234,999	1,205,528	8.47
Workmen's comp	4,929,985	5,214,985	5,964,985	5,964,985	1,035,000	17.35
Acc. & sickness ins.	474,403	474,403	502,418	521,059	46,656	8.95
Group life ins.	838,341	838,341	507,083	555,445	(282,896)	(50.93)
Blue Cross/Blue Shield	26,687,615	24,026,693	21,872,882	22,850,384	(3,837,231)	(16.79)
Unemployment ins.	60,000	60,000	116,923	195,024	135,024	69.23
Uniforms & work clothes	586,759	754,614	727,332	853,384	266,625	31.24
Fringe benefits cost capitalized	(8,985,212)	(7,564,573)	(8,985,212)	(8,856,389)	128,823	(1.45)
OPERATING WAGES & FRINGE BENEFITS	237,143,939	244,030,186	243,537,629	245,058,721	7,914,782	3.23
Materials & other items	44,629,445	48,177,752	50,565,398	50,269,283	5,639,838	11.22
Injuries & damages	6,000,000	4,748,300	7,175,291	7,175,291	1,175,291	
Interest unfunded debt	17,694,914	14,691,650	13,793,660	13,340,144	(4,354,770)	(32.64)
Fuel	22,426,724	23,890,264	20,200,409	19,048,147	(3,378,577)	(17.74)
Taxes (other than above)	1,060,000	1,060,000	1,060,000	1,091,668	31,668	2.90
Railroad commuter subsidy	52,986,189	52,986,189	52,986,189	52,986,189	0	
Local service subsidy	4,033,372	4,033,372	4,053,372	3,948,989	(84,383)	(2.14)
TOTAL OPERATING EXPENSES	385,974,583	393,617,713	393,371,948	392,918,432	6,943,849	1.77

Int. on funded debt (MTA)	4,748,992	4,748,992	4,748,992	4,687,839	(61,153)	(1.30)
Int. on funded debt (MBTA)	56,183,137	48,120,177	50,380,916	48,792,168	(7,390,969)	(15.15)
Payment on funded debt (MTA)	2,882,926	2,882,926	2,882,926	2,875,812	(7,114)	(.25)
Payment on funded debt (MBTA)	22,482,500	21,665,000	20,887,356	20,887,356	(1,595,144)	(7.64)
Misc. & bank charges	200,000	711,564	200,000	62,857	(137,143)	(218.18)
				555,085	555,085	100.00
FIXED CHARGES	86,497,555	78,128,659	79,100,190	77,861,117	(8,636,438)	(11.09)
TOTAL CURRENT EXPENSES	472,472,138	471,746,372	472,472,138	470,779,549	(1,692,589)	(.36)
COST OF SERVICE IN EXCESS OF INCOME	354,218,756	354,342,990	354,218,756	347,532,931	(6,685,825)	(1.92)
STATE FIN. CONTRACT (MTA)	3,000,000	3,000,000		3,000,000	0	.00
STATE FIN. CONTRACT (MBTA)	70,596,163	61,994,316		62,250,778	(8,345,385)	(13.41)
STATE FIN. CONTRACT (RR)	9,200,000	8,700,000		8,700,167	(499,833)	(5.75)
FEDERAL OPERATING FUNDS	21,338,201	21,338,201		20,879,430	(458,771)	(2.20)
NET COST OF SERVICE (LOSS)	250,084,392	259,310,473		252,702,556	2,618,164	1.04

APPENDIX C:2

MBTA DEPARTMENTAL EXPENDITURES FY86

DEPARTMENT	FY1986 BUDGETED	SPREAD BUDGET FY 1986	FY1986 ACTUAL	VARIANCE	%
EXECUTIVE					
wages	1,577,990	1,842,301	1,872,901	294,911	18.69
materials	375,373	376,612	290,218	(85,155)	(22.69)
services	255,173	366,966	587,219	332,046	130.13
other			(1,064)		
TOTAL	2,208,536	2,585,879	2,749,274	540,738	24.48
TREASURER/CONT					
wages	4,531,500	4,657,517	4,405,258	(126,242)	(2.79)
materials	196,730	196,730	166,269	(30,461)	(15.48)
services	634,155	634,155	1,261,246	627,091	98.89
copy machines		178,000	221,687	221,687	
postage		94,500	113,414	113,414	
insurance	1,455,950	2,728,110	2,914,895	1,458,945	100.21
sinking fund					
gas & diesel tax					
misc tax & toll	1,060,000	1,060,000	1,091,668	31,668	2.99
uniforms	6,400	6,400	14,611	8,211	128.30
other			335,101	335,101	
TOTAL	7,884,735	9,555,412	10,524,149	2,639,414	33.47
MIS					
wages	1,139,275	946,823	935,263	(204,012)	(17.91)
materials	86,544	110,828	160,404	73,860	85.34
services	1,105,170	1,273,338	769,715	(335,455)	(30.35)
TOTAL	2,330,989	2,330,989	1,865,382	(465,607)	(19.97)
LAW					
wages	1,437,952	1,437,952	1,493,891	55,939	3.89
materials	13,211	13,211	4,359	(8,852)	(67.00)
services	248,300	500,000	806,192	557,892	224.68
inj. & dam.	5,000,000	4,748,300	7,175,290	2,175,290	43.51
TOTAL	6,699,463	6,699,463	9,479,732	2,780,269	41.50
POLICE					
wages	3,357,960	3,609,635	3,846,160	488,200	14.54
materials	11,600	21,600	34,174	22,574	194.60
services	250,638	289,618	331,954	81,316	32.44
uniforms	42,000	50,625	86,015	44,015	104.80
TOTAL	3,662,198	3,971,478	4,298,303	636,105	17.37

APPENDIX C:2

DEPARTMENT	FY 1986 BUDGETED	SPREAD BUDGET FY 1986	ACTUAL FY 1986	VARIANCE	%
OPERATIONS					
wages	4,199,677	3,135,892	2,715,434	(1,484,243)	(35.34)
materials	78,024	73,024	25,840	(52,184)	(66.88)
services	4,048,650	90,861	550,751	(3,497,899)	(86.40)
local service	4,033,372	3,299,000	3,205,377	(827,995)	(20.53)
TOTAL	12,359,723	6,598,777	6,497,402	(5,862,321)	(47.43)
TRANSPORTATION					
wages	82,491,597	83,332,610	88,556,757	6,065,160	7.35
materials	80,000	85,000	105,313	25,313	31.64
services	42,000	52,635	55,773	13,773	32.79
contract cleaning	0	3,628,161	3,669,619		
local services	0	734,372	569,453		
uniforms	405,250	564,480	536,815	131,565	32.47
TOTAL	83,018,847	88,397,258	93,493,730	6,235,811	7.51
ENG. & MAINT.					
wages	30,729,717	31,879,880	32,109,171	1,379,454	4.49
materials	4,332,813	5,042,813	4,759,529	426,716	9.85
services	3,857,393	4,033,413	3,834,389	(23,004)	(.60)
utilities	10,713,031	10,324,650	9,575,591	(1,137,440)	(10.62)
electric power	15,651,363	17,389,855	13,128,520	(2,522,843)	(16.12)
TOTAL	65,284,317	68,670,611	63,407,200	(1,877,117)	(2.88)
RAIL EQUIP					
wages	19,035,503	18,924,240	18,557,620	(477,883)	(2.51)
materials	6,581,398	7,253,751	8,477,983	1,896,585	28.82
services	1,196,142	566,542	796,829	(399,313)	(33.38)
TOTAL	26,813,043	26,744,533	27,832,432	1,019,389	3.80
GREEN LINE					
wages	9,173,405	9,465,461	8,989,813	(183,592)	(2.00)
materials	2,469,074	2,402,674	2,381,801	(87,273)	(3.53)
services	921,400	682,800	689,325	(232,075)	(25.19)
TOTAL	12,563,879	12,550,935	12,060,939	(502,940)	(4.00)
AUTOMOTIVE					
wages	12,339,356	12,492,140	12,375,690	36,334	.29
materials	3,741,948	3,741,948	4,094,010	352,062	9.41
services	528,100	528,100	542,736	14,636	2.77
gas & dis.	6,775,361	6,500,409	5,919,629	(855,732)	(12.63)
TOTAL	23,384,765	23,262,597	22,932,065	(452,700)	(1.94)

APPENDIX C:2

DEPARTMENT	FY1986 BUDGETED	SPREAD BUDGET FY 1986	FY1986 ACTUAL	VARIANCE	%
REAL ESTATE					
wages	78,000	78,000	94,903	16,903	21.67
materials	900	900	469	(431)	(47.89)
services	41,300	1,609,969	1,457,500	1,416,200	
other			(27,577)	(27,577)	
TOTAL	120,200	1,688,869	1,525,295	1,405,095	
PERSONNEL					
wages	535,689	591,161	555,270	19,581	3.66
materials	24,974	40,954	22,971	(2,003)	(8.02)
services	193,717	201,067	261,178	67,461	34.82
TOTAL	754,380	833,182	839,419	85,039	11.27
LABOR RELATIONS					
Wages	523,908	523,908	534,991	11,083	2.12
Materials	3,842	6,842	4,368	526	13.69
Services	500,825	215,825	208,977	(291,848)	(58.27)
Worker's Comp	4,929,985	5,214,985	5,964,983	1,034,998	20.99
TOTAL	5,958,560	5,961,560	6,713,319	754,759	12.67
MATERIALS					
wages	2,274,584	2,245,914	2,193,299	(81,285)	(3.57)
materials	28,395	28,395	51,154	22,759	80.15
services	18,500	18,500	86,726	68,226	368.79
TOTAL	2,321,479	2,292,809	2,331,179	9,700	.42

APPENDIX C:3

OVERTIME BY DEPARTMENT
(Operations)

	FY86	FY85
HOURS		
EXECUTIVE	2,532	2,597
OPERATIONS DIR.	(1,218)	12,571
TRANSPORTATION	271,703	171,922
ENGINEERING & MAINT.	30,607	37,460
RAIL EQUIPT. MAINT.	24,238	30,649
GREEN LINE	26,903	23,086
AUTOMOTIVE	30,185	22,895
CONSTRUCTION	17	16
TREASURER/CONTROLLER	17,052	14,375
LAW	34	8
REAL ESTATE MANAGEMENT	102	0
POLICE	42,859	61,583
PERSONNEL	329	231
MATERIALS	1,120	415
M.I.S.	2,662	1,610
COMMUTER RAIL	3,140	923
TOTAL	452,265	380,341
DOLLARS		
EXECUTIVE	$48,863	$47,292
OPERATIONS DIR.	(32,535)	286,244
TRANSPORTATION	5,928,688	3,585,159
ENGINEERING & MAINT.	702,987	791,862
RAIL EQUIPT. MAINT.	584,927	701,507
GREEN LINE	622,664	496,224
AUTOMOTIVE	702,215	521,771
CONSTRUCTION	3,636	4,446
TREASURER/CONTROLLER	349,054	278,155
LAW	632	235
REAL ESTATE MANAGEMENT	3,808	0
POLICE	866,290	1,182,929
PERSONNEL	4,399	3,791
MATERIALS	22,168	8,221
M.I.S.	51,473	30,748
COMMUTER RAIL	65,151	18,520
TOTAL	$9,924,420	$7,957,104

APPENDIX C:4

TOTAL ABSENCE HOURS BY DEPARTMENT

	FY86	FY85
Exec. Office	3,093	2,644
Oper. Direct.	69,982	61,192
Trans. Dept.	2,634	3,486
Rail Lines	223,762	253,844
Surface Line	479,743	371,862
Eng. & Main.	104,688	101,403
Shop Maint.	40,712	42,277
Equip. Maint.	96,963	100,840
Construct.	25,303	19,605
Treas. Cont.	6,142	31,099
Law Dept.	799	2,914
Real Estate	110	32
Police Dept.	10,755	9,348
Personnel	668	468
Materials	8,085	6,919
Safety	0	0
Commuter Rail	0	40
Total	1,073,439	1,007,973

SICK HOURS BY DEPARTMENT

	FY86	FY85
Exec. Office	2,314	1,877
Oper. Direct.	2,940	2,573
Trans Dept.	2,210	1,770
Rail Lines	108,614	137,159
Surface Lines	185,527	156,332
Eng. & Maint.	59,670	52,266
Shop Maint.	26,918	20,312
Equip Main.	46,775	43,231
Construction	16,292	14,425
Treas.Cont.	5,098	3,059
Law Dpt.	743	2,793
Real Estate	48	32
Police Dpt.	5,537	5,143
Personnel	254	321
Materials	5,266	5,399
Safety	0	0
Commuter Rail	0	40
Total	468,206	446,732

APPENDIX C:4

INDUSTRIAL ACCIDENT HOURS BY DEPARTMENT

	FY86	FY85
Exec. Office	36	140
Oper. Direct.	66,392	58,232
Trans. Dept.	8	0
Rail Lines	73,054	68,355
Surface Lines	152,514	127,295
Eng. & Maint.	27,980	33,290
Shop Maint.	9,781	17,429
Equip. Maint	43,955	48,636
Construction	5,959	4,021
Treas/Cont.	477	40
Law Dept.	16	0
Real Estate	56	0
Police	916	1,226
Personnel	0	0
Materials	1,770	935
Safety	0	0
Commuter Rail	0	0
Totals	382,914	359,599

APPENDIX D:1

MBTA Bus and Trackless Trolley Garages and Rating Stations

Vehicles are maintained at MBTA garages and operators are provided by rating stations. All garages are run by the Automotive Equipment Maintenance Dept, except for the N. Cambridge carhouse, which is run by the Light Rail Equipment Maintenance Dept.

Rating stations are run by Surface Lines. A garage may serve more than one rating area; communities are often served by more than one rating area.

Garage/Area	Rating Station/ Area	Communities Served
Albany/442	Cabot/123	Boston proper, Brighton, Watertown, Needham, Allston, Roslindale, Waltham, Newton
Bartlett/443	Arborway/122	Roslindale, Roxbury, Dorchester, Hyde Park, Mattapan, Readville, W. Roxbury, Newton, Watertown, Jamaica Plain, Boston, Brookline, Norwood, Walpole
Fellsway/445	Salem St/126 ("Charlestown")	Medford, Cambridge, Malden, Melrose, Everett, Revere, Saugus, Woburn, Reading, Wakefield
Charlestown/449	Bennett St/125	Cambridge, Belmont, Watertown, Burlington, Brookline Bedford, Arlington, Allston Brighton, Lexington, Waltham, Somerville
Charlestown/449	Salem St/126 ("Charlestown")	Boston, E. Boston, Cambridge, Charlestown, Everett, Malden, Chelsea, Revere, Saugus, Melrose, Melrose, Wakefield, Somerville, Medford, Woburn, Reading, Burlington
Quincy/452	Quincy/128	Dorchester, Quincy, Boston, Milton, Mattapan, Avon, Braintree, Randolph, Hingham, Weymouth, Holbrook non-revenue runs to Long Island Hospital and Shattuck Hospital

APPENDIX D:1

Garage/Area	Rating Station/ Area	Communities Served
Lynn/453	Lynn/129	Boston, E Boston, Chelsea, Revere, Lynn, Saugus, Nahant, Swampscott, Marblehead, Beverly, Salem, Danvers, Lynnfield
Cabot/455	Cabot/123	Boston, So. Boston, N. Dorchester, Roxbury, Cambridge, J. Plain, Brookline, Newton Waltham, Watertown, Needham Brighton, Allston
N. Cambridge/464	Bennett St/125	Cambridge, Belmont, Watertown

APPENDIX D:2

WEEKDAY TRIPS OPERATED BY THE MBTA
ALL MODES

Fiscal Year	Trips Scheduled	Scheduled Trips Missed	%	Scheduled Trips Run	% Variance Prev. Year
1986	2,169,062	35,141	1.62	2,133,921	1.08
1985	2,136,532	25,408	1.19	2,111,124	2.71
1984	2,085,612	30,132	1.44	2,055,480	0.08
1983	2,094,219	40,418	1.93	2,053,825	11.04
1982	1,943,983	69,498	3.58	1,874,485	(4.14)
1981	2,016,974	61,652	3.05	1,955,412	(6.57)
1980	2,140,325	47,307	2.21	2,093,018	3.87
1979	2,093,353	78,379	3.74	2,014,975	(0.66)
1978	2,083,494	55,055	2.64	2,028,439	(5.38)
1977	2,205,162	61,444	2.79	2,143,717	7.14
1976	2,054,109	53,166	2.59	2,000,943	-

APPENDIX D:3

MBTA BUS ROADCALLS - FY85 & FY86

Area	Roadcalls FY1985	%Total FY1985	Roadcalls FY1986	%Total FY1986	% Increase (Decrease)
Cabot	2,276	27.9	2,461	28.4	8.6
Albany	682	8.4	839	9.7	23.5
Bartlett	1,385	17.0	1,375	15.9	(.3)
Quincy	483	5.9	462	5.3	(4.0)
Ch'town	1,846	22.6	2,218	25.6	20.6
Fellsway	444	5.4	341	3.9	(22.9)
Lynn	907	11.1	670	7.7	(25.8)
N. Cambridge	132	1.6	289	3.3	119.8
Total:	8,155	100.0	8,655	100.0	6.6
Total Miles:	21,613,281		21,375,587		
Miles/ Roadcall:	2,650		2,470		(6.8%)

APPENDIX D:4

RAILROAD OPERATIONS - FY86 ACTUALS

	ACTUAL	BUDGET	BUDGET VARIANCE
B&M EXPENSES			
Operating Expenses	$56,036,917	$64,546,762	$ (8,509,845)
Management Fee	500,000	500,000	-
Incentive Fee	800,000	800,000	-
Freight Credit	(143,422)	(259,792)	116,370
Total Cost	57,193,495	65,586,970	(8,393,475)
Revenue	(17,594,017)	(18,398,839)	804,822
Sub Total- B&M Net Cost	39,599,478	47,188,131	(7,588,653)
MBTA EXPENSES			
Insurance	463,052	697,300	(234,248)
Supervision	1,091,263	995,529	95,734
Amtrak	4,245,684	4,200,400	45,284
Bills for Collection	(1,204,616)	(725,000)	(479,616)
Beverly Fire	811,745	629,829	181,916
B&M Strike	909,582	_	909,582
Personal Injury Transfer	770,003	_	770,003
Entry for Backpay	2,000,000	_	2,000,000
Entry for Transition and Labor Protection	4,300,000		4,300,000
Sub-Total	13,386,713	5,798,058	7,588,655
GRAND TOTAL	$52,986,191	$52,986,189	$ 2

THE RIDE FY 85-86

	Service Hours	Trip Request	Trips Scheduled	Trips Cancelled	Trips Missed	Trips Not avail.	Passenger Trips	Total Miles	Net Cost
1st Quarter	29,755	53,200	51,278	8,786	118	1,922	40,284	321,451	
2nd Quarter	32,106	59,167	55,342	8,366	163	3,825	44,581	342,625	
3rd Quarter	34,332	59,779	57,631	7,608	345	2,148	47,023	369,100	
4th Quarter	35,917	64,310	62,091	7,636	231	2,219	51,338	379,429	
Total FY86	132,110	236,456	226,342	32,396	857	10,114	183,226	1,412,605	2,701,465
Total FY85	89,182	163,874	155,465	25,672	177	8,409	123,711	922,139	1,750,037

1974